



Beryllium Research Agenda

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**CSTC Joint DOE/EFCOG Chemical Management
Workshop**

November 4, 2003





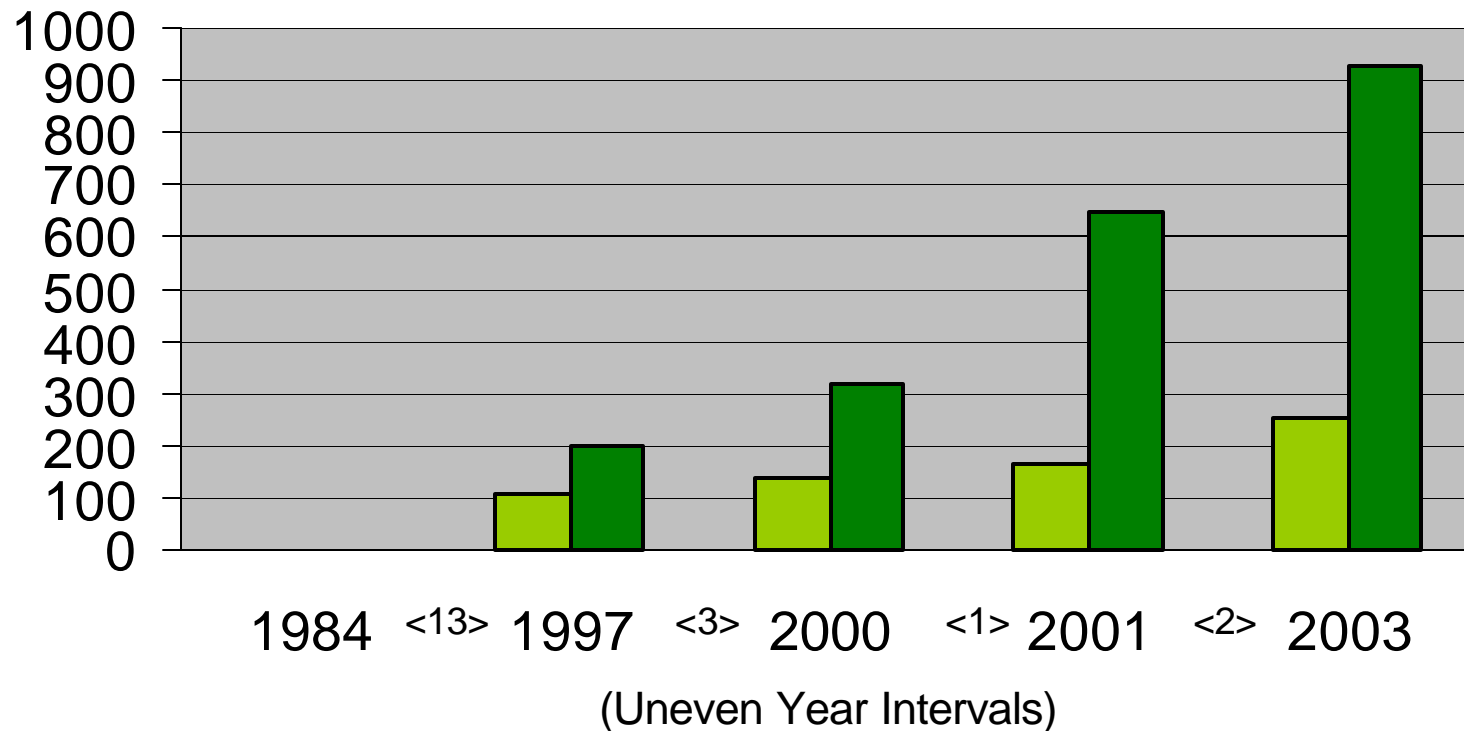
Chronic Beryllium Disease (CBD)

- **Immune System Response**
- **Progressive Damage to Lungs**
- **Results in Disability and Shortening of Life**



DOE Beryllium Disease

Current and Former Workers



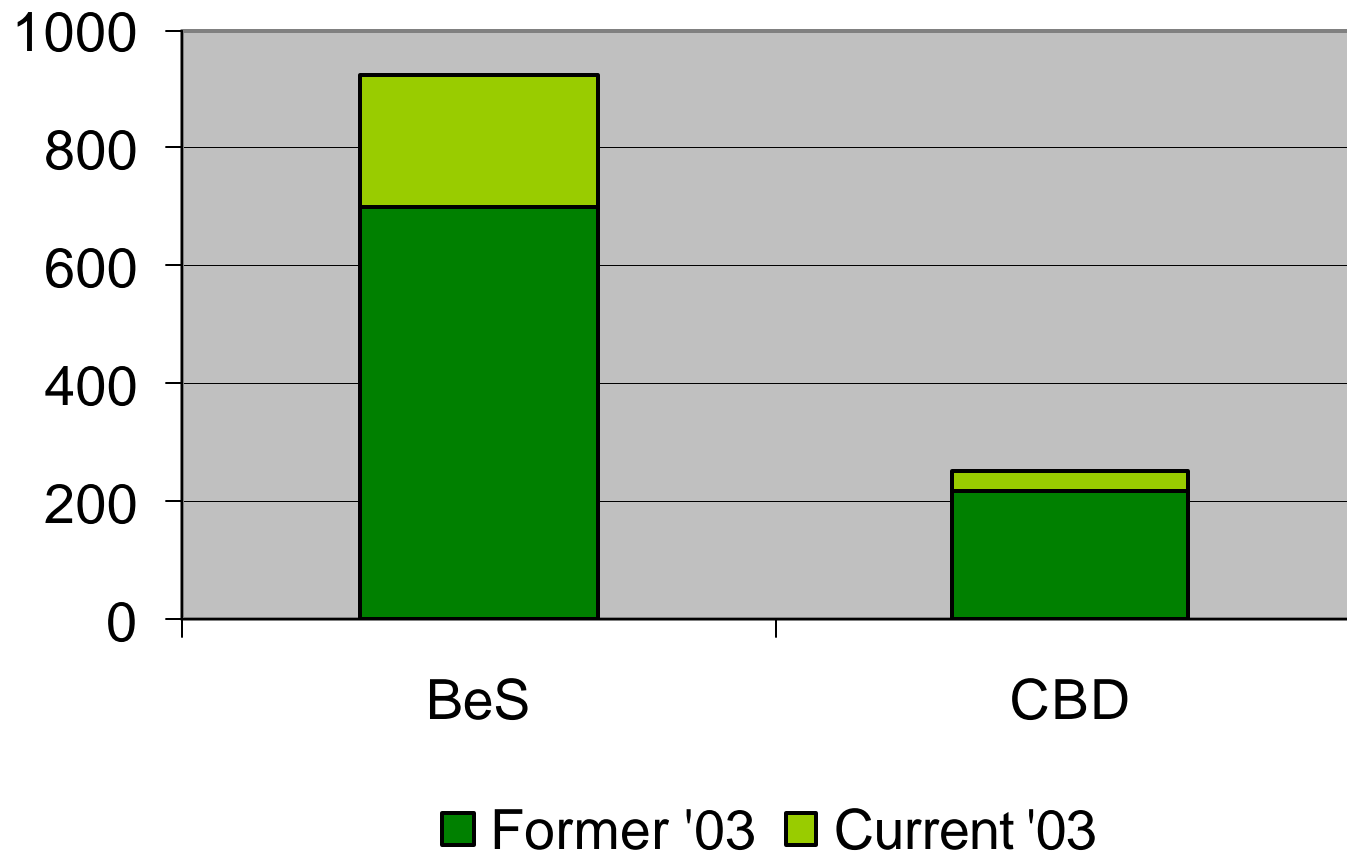
■ Chronic Beryllium Disease (CBD) ■ Beryllium Sensitivity (BeS)



DOE Beryllium Disease

Current vs. Former

2003 Only





“New” Cases

First Known Beryllium Job is After 1998

Kansas City Plant	1
Nevada Site Office	1
Y-12	7
May be Others	?

**Registry Work History
Data is Sketchy**



Beryllium Health and Safety Issue

- **Operations with Beryllium Continue**
 - **Production, Clean up, Research**
- **Continue to Identify New Cases**
 - **Recent Aggressive Screening**
 - **Many are Pre-existing, Some are New**
- **More Information Needed to Protect Workers**
 - **Knowledge Gaps**



Steps in Establishing a Beryllium Research Program

NA-1 Requests Support of EH-1	Jul '02
NA-1, EH-1 Set Overall Strategy-Requested Inventory of Current Research	Jan '03
Inventory Developed	Mar '03
First NA-1, EH-1, SC-1, EM-1 Briefing-Requested More Input, Proposal for Research Opportunities	Jun '03
Workshops to Identify Knowledge Gaps: Beryllium Health and Safety Committee Outside Experts, Scientists	Jun '03 Aug '03
Second NA-1, EH-1, SC-1, EM-1 Briefing-To Establish Commitment to Proceed	Oct '03



Integrated and Focused Activities

- DOE Offices and Field
- Other Federal Agencies
- Private Organizations
 - Industry
 - Universities/Medical Centers
- Keep Focus on Application of Results to Mission



Current Beryllium Health and Safety Research

- **Limited Research Underway**
 - **Inventory Identified 40 Projects**
 - **Funds Through '03**
 - **External Funds-\$8M**
 - **DOE Funds-\$4M**
 - **Not Meeting All DOE-wide Needs**



Current Beryllium Health and Safety Research (2)

- **Worker Registry Will Help**
 - **Consistent Complex-wide Data**
- **Handout:**
 - **“Current Beryllium Health and Safety Research Activities”**



Total Funds Spent Through FY'03

From Inventory of Current Activities In Major Research Areas

	In \$M
Exposure	3.24
Controls	0.04
Health Effects	9.07
TOTAL	12.35



Research Community Difficulties

- **Much Key Research is Ad Hoc**
 - No Dedicated Funding
 - Lack of Institutional Support
 - Few Hundred Cases is Low Priority
- **Prior DOE and NIEHS Solicitations**
 - Little Response
 - Lack of Essential Tools and Materials
 - Uncertain Funding



Strategy for Research Community

- **Need a Community that is:**
 - Interested
 - Qualified
- **Community Needs:**
 - Tools and Materials
 - Expectation (not promise) of Funding
 - Institutional Support
 - DOE
 - DOE Influence with Other Agencies



Proposed Research Opportunities

- **Objective**
 - **Ability to Operate Confident that Beryllium Disease is Controlled**
- **First Priority-Develop Essential Tools**
- **Handouts:**
 - **“Opportunities for Beryllium Health and Safety Research by Type of Research”-summary**
 - **“Opportunities for Beryllium Health and Safety Research” -details**



Opportunities for Beryllium Health and Safety Research

by Research Areas

	Estimated Cost in <u>\$M/Year</u>
Exposure	4.85
Controls	1.25
Health Effects	8.50
TOTAL	14.60

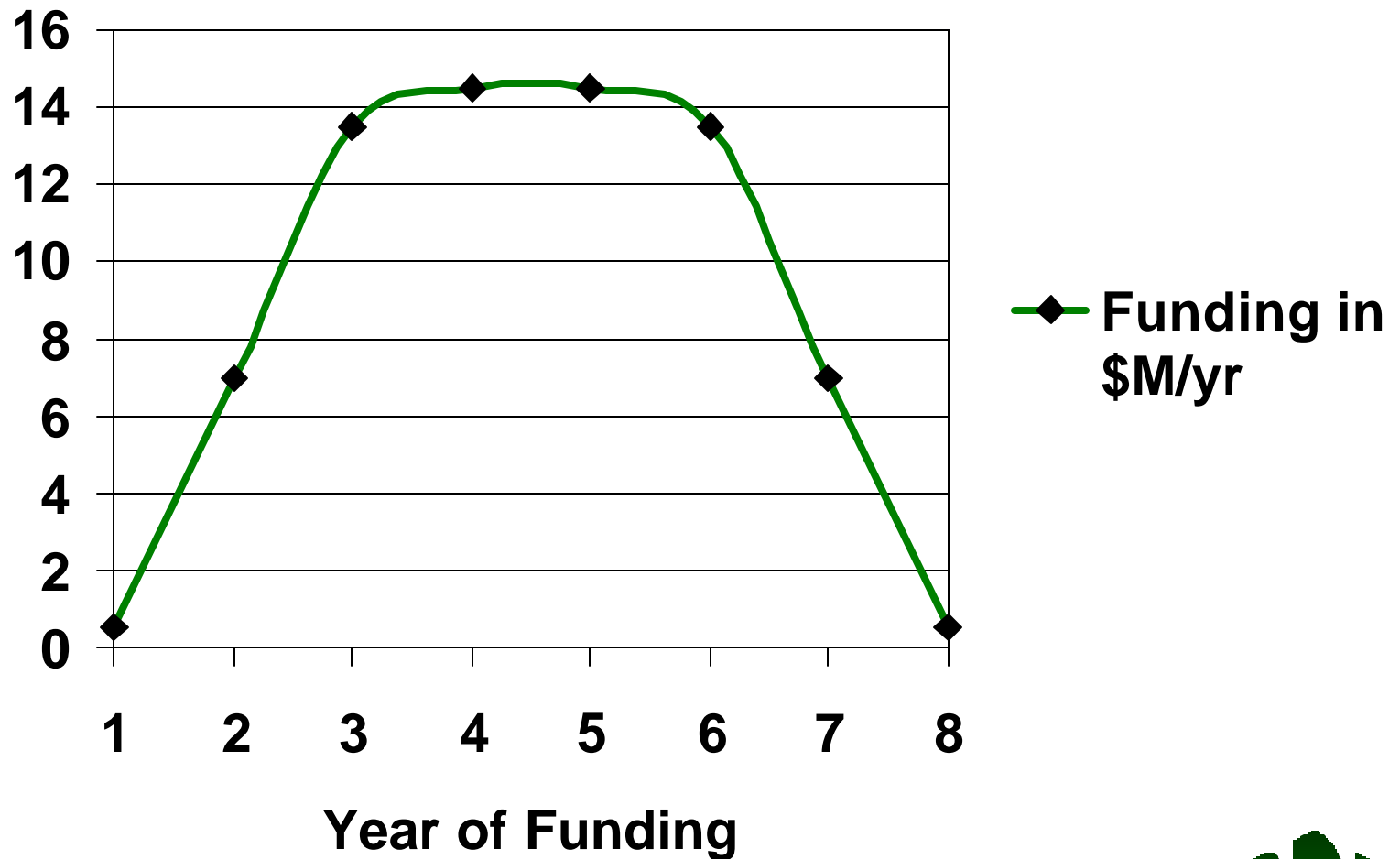


Opportunities for Beryllium Health and Safety Research by Type of Research

	Estimated Cost in \$M/Year
Applied Science	5.00
Basic Science	5.85
Epidemiology	3.75
TOTAL	14.60



Funding Projection





Possible Next Steps

- **Prepare DOE Research Needs Document**
 - Refine Objectives
 - Establish Process
 - Define Relationships
 - Identify Possible Funding Sources



Possible Next Steps (2)

- **Conduct Annual Update of Research of Interest to DOE**
- **Coordinate with other Agencies to Leverage DOE Resources**



Possible Research Solicitation Schedule

Based Upon Available Resources

Workshops to Identify Knowledge Gaps: Beryllium Health and Safety Committee Managers, Workers, Outside Experts, Scientists	Jun '03 Aug '03
Brief Senior Management /Determine Funding Levels	Oct '03
Issue Solicitation	Oct-Dec Yr 1
Applications Due	Dec Yr 1-Feb Yr 2
Scientific and Programmatic Reviews Complete	Feb-Apr Yr 2
Begin Funding	May-Jul Yr 2



Opportunities for Assistant Secretaries

- **Identify Research of Interest**
 - **Point of Contact**
 - **Staff Time**
 - **Identify Available Funds**
- **Participate in Research Solicitation Based Upon Availability of Resources**